

# SEARCH REQUEST FORM

Requestor's Name: \_\_\_\_\_ Serial Number: \_\_\_\_\_  
Date: \_\_\_\_\_ Phone: \_\_\_\_\_ Art Unit: \_\_\_\_\_

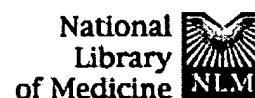
## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

## STAFF USE ONLY

Date completed: <u>12/4</u>	Search Site	Vendors
Searcher: <u>D. Schuchman 388-4292</u>	<input type="checkbox"/> STIC	<input type="checkbox"/> IG
Terminal time: <u>8</u>	<input checked="" type="checkbox"/> CM-1 <u>6A03</u>	<input type="checkbox"/> ISTN
Elapsed time: <u>13</u>	<input type="checkbox"/> Pre-S	<input type="checkbox"/> Dialog
CPU time: _____	Type of Search	<input type="checkbox"/> APS
Total time: _____	<input checked="" type="checkbox"/> N.A. Sequence	<input type="checkbox"/> Geninfo
Number of Searches: _____	<input type="checkbox"/> A.A. Sequence	<input type="checkbox"/> SDC
Number of Databases: _____	<input type="checkbox"/> Structure	<input type="checkbox"/> DARC/Questel
	<input type="checkbox"/> Bibliographic	<input checked="" type="checkbox"/> Other <u>6A03</u>

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	365	acetylglucosaminidase	USPAT; US-PGP UB; EPO; JPO; DERWEN T	2002/12/30 10:00
2	L2	161	l1 near5 endo	USPAT; US-PGP UB; EPO; JPO; DERWEN T	2002/12/30 10:01
3	L3	8	l1 and mucor	USPAT; US-PGP UB; EPO; JPO; DERWEN T	2002/12/30 10:01



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Bo
Search	PubMed	▼	for	#2 AND mucor	Preview	Go	C	
Limits		Preview/Index		History		Clipboard		Details

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Entrez PubMed

Search	Most Recent Queries	Time	Result
#7	Search #2 AND mucor	08:39:38	<u>14</u>
#6	Search #2 AND gene	08:39:09	<u>3</u>
#5	Search #2 AND cloning	08:38:41	<u>3</u>
#2	Related Articles for PubMed (Select 1368528)	08:32:51	<u>163</u>
#1	Search Kadowaki and mucor	08:32:43	<u>4</u>

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09/700,993 SEARCH RESULTS/HISTORY

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(FILE 'HOME' ENTERED AT 08:45:17 ON 30 DEC 2002)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 08:45:31 ON 30 DEC 2002

SEA MUCOR AND ACETYLGLUCOSAMINIDASE

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6 FILE AGRICOLA  
1 FILE AQUASCI  
2 FILE BIOBUSINESS  
24 FILE BIOSIS  
13 FILE BIOTECHABS  
13 FILE BIOTECHDS  
11 FILE BIOTECHNO  
1 FILE CABA  
2 FILE CANCERLIT  
40 FILE CAPLUS  
2 FILE CEABA-VTB  
1 FILE DDFU  
37 FILE DGENE  
1 FILE DRUGU  
1 FILE EMBAL  
16 FILE EMBASE  
13 FILE ESBIODBASE  
5 FILE FSTA  
3 FILE GENBANK  
23 FILE JICST-EPLUS  
8 FILE LIFESCI  
17 FILE MEDLINE  
1 FILE OCEAN  
7 FILE PASCAL  
22 FILE SCISEARCH  
2 FILE TOXCENTER  
5 FILE USPATFULL

L1 QUE MUCOR AND ACETYLGLUCOSAMINIDASE

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FILE 'MEDLINE, AGRICOLA, CAPLUS, BIOSIS, EMBASE, WPIDS, JICST-EPLUS'  
ENTERED AT 08:47:00 ON 30 DEC 2002

L2 126 S MUCOR AND ACETYLGLUCOSAMINIDASE  
L3 58 DUP REM L2 (68 DUPLICATES REMOVED)  
L4 50 S L3 NOT PY>1998  
L5 37 S L4 AND ENDO

=> s l5 and (clon? or dna or cdna or gene or nucleic)  
L6 2 L5 AND (CLON? OR DNA OR CDNA OR GENE OR NUCLEIC)

=> d l- ibib abs  
YOU HA

## IUBMB Enzyme Nomenclature

## EC 3.2.1.96

**Common name:** mannosyl-glycoprotein endo- $\beta$ -*N*-acetylglucosaminidase

**Reaction:** Endohydrolysis of the N,N'-diacetylchitobiosyl unit in high-mannose glycopeptides and glycoproteins containing the -[Man(GlcNAc)<sub>2</sub>]Asn-structure. One *N*-acetyl-D-glucosamine residue remains attached to the protein; the rest of the oligosaccharide is released intact

**Other names:** *N,N'*-diacetylchitobiosyl  $\beta$ -*N*-acetylglucosaminidase; endo- $\beta$ -*N*-acetylglucosaminidase; mannosyl-glycoprotein endo- $\beta$ -*N*-acetylglucosaminidase; di-*N*-acetylchitobiosyl  $\beta$ -*N*-acetylglucosaminidase; endo- $\beta$ -acetylglucosaminidase; endo- $\beta$ -(1  $\rightarrow$  4)-*N*-acetylglucosaminidase; mannosyl-glycoprotein 1,4-*N*-acetamidodeoxy- $\beta$ -D-glycohydrolase; endoglycosidase S; endo-*N*-acetyl- $\beta$ -D-glucosaminidase; endo-*N*-acetyl- $\beta$ -glucosaminidase; endo- $\beta$ -*N*-acetylglucosaminidase D; endo- $\beta$ -*N*-acetylglucosaminidase F; endo- $\beta$ -*N*-acetylglucosaminidase H; endo- $\beta$ -*N*-acetylglucosaminidase L

**Systematic name:** glycopeptide-D-mannosyl-*N*<sup>4</sup>-(*N*-acetyl-D-glucosaminyl)<sub>2</sub>-asparagine 1,4-*N*-acetyl- $\beta$ -glucosaminohydrolase

**Comments:** A group of related enzymes.

**Links to other databases:** [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number: 37278-88-9

**References:**

1. Chien, S., Weinburg, R., Li, S. and Li, Y. Endo- $\beta$ -*N*-acetylglucosaminidase from fig latex. *Biochem. Biophys. Res. Commun.* 76 (1977) 317-323.
2. Koide, N. and Muramatsu, T. Endo- $\beta$ -*N*-acetylglucosaminidase acting on carbohydrate moieties of glycoproteins. Purification and properties of the enzyme from *Diplococcus pneumoniae*. *J. Biol. Chem.* 249 (1974) 4897-4904. [Medline UI: [74288197](#)]
3. Pierce, R.J., Spik, G. and Montreuil, J. Cytosolic location of an endo-*N*-acetyl- $\beta$ -D-glucosaminidase activity in rat liver and kidney. *Biochem. J.* 180 (1979) 673. [Medline UI: [80020233](#)]
4. Pierce, R.J., Spik, G. and Montreuil, J. Demonstration and cytosolic location of an endo-*N*-acetyl- $\beta$ -D-glucosaminidase activity towards an asialo-*N*-acetyl-lactosaminic-type substrate in rat liver. *Biochem. J.* 185 (1980) 261-264. [Medline UI: [80197728](#)]
5. Tai, T., Yamashita, K., Ogata-Arakawa, M., Koide, N., Muramatsu, T., Iwashita, S., Inoue, Y. and Kobata, A. Structural studies of two ovalbumin glycopeptides in relation to the endo- $\beta$ -*N*-acetylglucosaminidase specificity. *J. Biol. Chem.* 250 (1975) 8569-8575. [Medline UI: [76069208](#)]
6. Tarentino, A.L., Plummer, T.H., Jr. and Maley, F. The release of intact oligosaccharides from specific

glycoproteins by endo- $\beta$ -*N*-acetylglucosaminidase H. *J. Biol. Chem.* 249 (1974) 818-824. [Medline UI: [74092230](#)]

[EC 3.2.1.96 created 1978]

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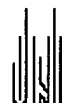
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**BRENDA**

Agric. Biol. Chem. 1988;52:2387-2389

**A novel endo-beta-N-acetylglucosaminidase acting on complex oligosaccharides of glycoproteins in a fungus****Kadowaki, S.; Yamamoto, K.; Fujisaki, M.; Kumagai, H.; Tochikura, T.; c****Legend:** = valid for all references of this EC number; = valid only for this reference; = valid for all references of this EC Number but only for described organisms (see field "Organism")**Organism:** *Mucor hiemalis*

See also following references to EC number 3.2.1.96 (sorted by authors):

31. Arakawa *et al.* (1974); 12. Baussant *et al.* (1986); 2. Bierbaum *et al.* (1988); 48. Bourgerie *et al.* (1994); 25. Chalifour *et al.* (1984); 36. Chien *et al.* (1977); 1. DeGasperi *et al.* (1989); 41. Delmotte *et al.* (1979); 26. Elder *et al.* (1982); 23. Freeze *et al.* (1984); 46. Fujisaki *et al.* (1991); 3. Garcia *et al.* (1989); 56. Guardati *et al.* (1993); 14. Hitomi *et al.* (1985); 54. Ito *et al.* (1993); 33. Ito *et al.* (1975); 6. Kadowaki *et al.* (1988); 47. Kadowaki *et al.* (1990); 5. Kadowaki *et al.* (1988); 55. Karamanos *et al.* (1995); 50. Kato *et al.* (1997); 60. Kimura *et al.* (1996); 20. Kimura *et al.* (1998); 4. Kitabatake *et al.* (1988); 17. Kobata *et al.* (1978); 30. Koide *et al.* (1974); 32. Koide *et al.* (1975); 44. Li *et al.* (1981); 15. Lisman *et al.* (1985); 24. Mizuochi *et al.* (1984); 19. Muramatsu *et al.* (1978); 38. Muramatsu *et al.* (1978); 29. Nishigaki *et al.* (1974); 37. Ogata-Arakawa *et al.* (1977); 53. Oshida *et al.* (1995); 43. Overdijk *et al.* (1981); 40. Pierce *et al.* (1979); 42. Pierce *et al.* (1980); 52. Rao *et al.* (1999); 59. Rao *et al.* (1995); 22. Robbins *et al.* (1984); 21. Rogers *et al.* (1984); 10. Song *et al.* (1987); 45. Tachibana *et al.* (1982); 57. Takegawa *et al.* (1991); 49. Takegawa *et al.* (1997); 18. Tarentino *et al.* (1978); 28. Tarentino *et al.* (1974); 34. Tarentino *et al.* (1975); 35. Tarentino *et al.* (1976); 8. Tarentino *et al.* (1987); 27. Tarentino *et al.* (1974); 16. Tarentino *et al.* (1978); 39. Trimble *et al.* (1979); 9. Trimble *et al.* (1987); 51. Valisena *et al.* (1991); 13. Yamamoto *et al.* (1986); 11. Yamamoto *et al.* (1986); 58. Yamamoto *et al.* (1998); 7. Yet *et al.* (1988);

**Recommended Name:** mannosyl-glycoprotein endo-beta-N-acetylglucosaminidase**Systematic Name:** glycopeptide-D-mannosyl-N4-(N-acetyl-D-glucosaminyl)2-asparagin  
1,4-N-acetyl-beta-glucosaminohydrolase**EC Number:** 3.2.1.96**CAS Registry Number:** 37278-88-9**Reaction:** endohydrolysis of the di-N-acetylchitobiosyl unit in high-mannose glycopeptides and glycoproteins containing the-[Man(GlcNAc)2]Asn-structure. One N-acetyl-D-glucosamine residue remains attached to the protein, the rest of the oligosaccharide is released intact

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**Substrates/Products:**

(S:=Substrates, CS:=Commentary Substrate, LS:=Literature Substrate, OS:=Organism Substrate, P:=Product, CP:=Commentary Product, LP:=Literature Product, OR:=Organism, OP:=Organism Product, RE:=Reversibility)

***Mucor hiemalis*:**

S= glycoprotein + H<sub>2</sub>O, CS= hydrolysis of asparagine-linked oligosaccharides of glycoproteins at the di-N-acetylchitobiosyl moiety of complex oligosaccharides, high-mannose oligosaccharides and hybrid

structure oligosachharides (see ref.: this reference) , *LS*= 5, *OS*= *Mucor hiemalis*, *P*= ?, *OP*= ? <1>  
*S*= transferrin + H<sub>2</sub>O, *LS*= 5, *OS*= *Mucor hiemalis*, *P*= complex oligosaccharides + ?, *LP*= 5, *OR*=  
*Mucor hiemalis*,

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**Application** 

(*AP*: =Application, *CO*: =Commentary )

***Mucor hiemalis*:**

*AP*= analysis, *CO*= the enzyme will be an excellent tool for clarification of the structures and functions of complex oligosaccharides in glycoproteins (see ref.: this reference)

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**Localization** 

(*LO*: =Localization, *CO*: =Commentary )

***Mucor hiemalis*:**

*LO*= extracellular,

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**Purification** ***Mucor hiemalis*:**

= partial (see ref.: this reference)

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**Source tissue** 

(*ST*: =Source tissue, *CO*: =Commentary )

***Mucor hiemalis*:**

*ST*= culture medium,

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**PDB ID Number** 

(PDB ID Number/Organism)

1C3F/ *Streptomyces plicatus* | 1C8X/ *Streptomyces plicatus* | 1C8Y/ *Streptomyces plicatus* | 1C90/ *Streptomyces plicatus* | 1C91/ *Streptomyces plicatus* | 1C92/ *Streptomyces plicatus* | 1C93/ *Streptomyces plicatus* | 1EDT/ *Streptomyces plicatus* | 1EOK/ *Flavobacterium meningosepti* | 1EOM/ *Flavobacterium meningosepti* | 2EBN/ *Chryseobacterium meningosep*

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